UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/667,712	MAEDA ET AL.
	Examiner	Art Unit	
	Brent S. Stace	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 November 2007</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-44</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-44</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 September 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   This communication is responsive to the amendment filed November 17th, 2007.

Claims 1-44 are pending. In the amendment filed November 17th, 2007, Claims 1, 2, 4-

6, 8-14, 16-21, 23, 24, 26-28, 30-36, 38-43 were amended, and Claims 1, 5, 10, 13, 16,

20, 23, 27, 32, 35, 38, and 42 are independent Claims. The examiner acknowledges

that no new matter was introduced and the claims are supported by the specification.

This action is made FINAL.

Response to Arguments

2.   Applicant's arguments filed November 17th, 2007 with respect to Claims 1-44

have been considered but are not persuasive.

3.   As to the applicant's arguments with respect to exemplary Claims 1, 5, 10, 13,

16, 20, 23, 27, 32, 35, 38, and 42 for the prior art(s) allegedly not teaching or suggesting

"a node stream formed in such a manner that a node priority is set with respect to each

of the nodes of a tree-structured document on the basis of the importance of an

information portion to be presented from the node to a receiving-side user while

satisfying two conditions: a first condition that the node priority of the node is equal to or

lower than that of a node which is an ancestor of that node, and a second condition that

is a plurality of nodes of the same priority exist, the nodes necessarily constitute one

sub tree," the examiner respectfully disagrees. The claimed limitation and it's

corresponding rejection dealing with this argument is recited again here: node priority

presentation means of presenting a node priority [Piotrowski, paragraph [0019]] which is

set with respect to each of nodes [Piotrowski, paragraph [0017] with Piotrowski,

paragraph [0022]] of a tree-structured document on the basis of the importance of an

information portion to be presented from the node to a receiving-side user [Piotrowski,

paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph

[0025]] while satisfying two conditions: a first condition that the node priority of the node

is equal to or lower than that of a node which is an ancestor of that node, [Piotrowski,

paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and a second condition

that if a plurality of nodes of the same priority exist, the nodes necessarily constitute one

subtree; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]]. In

summary, Piotrowski, paragraphs [0007]-[0009], [0015], [0017], [0019], [0022], and

[0025] were used to reject this limitation. Piotrowski, paragraph [0019] teaches a node

priority presentation means of presenting a node priority since the cited paragraph

teaches that users have the ability to modify priorities of XML portions (XML portions

being defined in Piotroski, paragraph [0007] as "portions, elements, segments, or

subtrees). In order for a user on a computer to modify the priorities of a hierarchical

XML document, the user must somehow see what they are doing on the computer and

see the priorities of the documents portions. As such, there must be a presentation

means in Piotrowski. Piotrowski, paragraphs [0017] and [0022] both teach that

elements in the XML are assigned a priority by a user. Piotroski, paragraph [0017]

teaches that the subtree in an XML document (inherently containing nodes) is given a

priority while Piotroski, paragraph [0022] teaches that each "element" (node) is assigned

a priority by a user. This appears to be the claimed presenting a node priority which is

set with respect to each of nodes. XML documents contain subtrees, see at least

Piotroski, paragraph [0017]'s teaching above. As such, these XML documents are tree-

structured documents. Piotrowski, paragraph [0015] with Piotrowski, paragraphs

[0007]-[0008] with Piotrowski, paragraph [0025] all teach that the priorities set in the

document correspond to an importance of an information portion that gets streamed and

decoded in the order in which they were streamed (higher priority items first). Piotroski,

paragraph [0009] teaches the decoding/reconstructing of the document "even if certain

lower priority XML portions are missing." The reconstructing of the document appears

to be a receiving -side user. As such, the cited portions of Piotrowski appear to teach

"of a tree-structured document on the basis of the importance of an information portion

to be presented from the node to a receiving-side user." The claimed steps to this point

(presentation, assignment, and transmission of the nodes/priorities) all occur while two

conditions are being met. The first condition, as claimed is "that the node priority of the

node is equal to or lower than that of a node which is an ancestor of that node."

Essentially, this means that the parents (and their parents) can have higher or equal

priorities to any given node. The second condition is "that if a plurality of nodes of the

same priority exist, the nodes necessarily constitute one subtree." As cited, Piotrowski,

paragraph [0017] with Piotrowski, paragraphs [0008]-[0009] teach each of these

conditions. For the first condition, Piotrowski, paragraph [0003] must be considered

also, giving background information of XML documents, and how they include root

nodes that define that the document is an XML document. This root node must have a

higher priority in order to establish to the receiver that the receiver is receiving an XML

document. Also, different subtrees under this root node can have different priorities as assigned by the user. If a node buried under some subtree has a high priority, it will be received first, but the receiving computer will not know where to place the node (in what subtree(s), see Piotrowski, end of paragrpah [0008]) unless it receives the subtree or at least the subtree structure node (Piotrowski, paragraph [0017]) indicating the relationship of subtree with other trees and the nodes beneath the top-most subtree node (this makes the non-leaf node priorities higher than its children (because if not, it will not know where the child node belongs)). As such, it is easy to see the natural relationship of inheritance in tree structures that have the children of parents inheriting the properties of their parents (this makes at least equal priorities between parents and children). The explanation above appears to teach the second condition (also seeing that paragraph [0017] teaches transmitting subtrees). Piotrowski, paragraph [0007] also helps in that it establishes that subtress are XML portions of documents, and that higher priority (more important) portions are streamed first. As such, if a bunch of nodes have the same highest priority, they all will be streamed first (necessarily constituting a subtree/portion, subtree being a bunch of nodes).

4.   As to the applicant's arguments with respect to exemplary Claims 1, 10, 13, 20, 23, 32, 35, and 42 for the prior art(s) allegedly not teaching or suggesting "that document nodes are "arranged in a sequence on the basis of the node priorities" before the are transmitted," the examiner respectfully disagrees. The claimed limitation of "nodes and/or subtrees are arranged in a sequence on the basis of node priorities" is taught by Piotrowski, paragraphs [0007]-[0008] as cited. In the cited sections, Piotrowski teaches that XML portions, element, segments, or subtrees that are most

important (higher priorities) are sent/streamed first (Piotrowski, paragraph [0007]). This

at least indicated that some grouping was done. Piotrowski, paragraph [0008] teaches

that the prioritized portions are "then grouped and or sent to a receiver to decode the

most important…portions…first." This is grouping/arranging the nodes prior to sending

them according to their priorities. Since the most important/highest priority nodes are

sent first, the arranging appears to be based on the priorities.

5.   As to the applicant's arguments with respect to Claims 2, 3, 6, 7, 11, 14, 17, 21,

22, 24, 25, 28, 29, 33, 38, 43, and 44 for the prior art(s) allegedly not teaching or

suggesting "and…substitute display nor…any mechanism for creating such a substitute

display," the examiner respectfully disagrees. Piotrowski, paragraph [0017] with

Piotrowski, paragraph [0018] was used to generally reject these arguments relating to

various limitations. Piotrowski, paragraph [0009] additionally aids in understanding the

rejection. First, it should be pointed out that the claim language recites "substitute

display information" not just "substitute display." Piotrowski, paragraph [0017] teaches

substitute display information with Piotrowski's structure nodes for each subtree that

indicates the relationship of the subtree to other subtrees. Since these structure nodes

are included with the XML document, they are considered content of the XML document

and are sent to the receiver so that the receiver can "reconstruct the structure of the full

tree provided enough of the streamed XML document is received." Piotrowski,

paragraph [0018] teaches that this content is enabled to be displayed with a desired

presentation and style while Piotrowski, paragraph [0009] teaches that the entire XML

document can be reconstructed "provided enough of the streamed XML portions are

received, even if certain lower priority XML portions are missing." Combining

paragraphs 9 and 18 above, the XML document can be displayed (presented) including the missing XML portions. Displaying missing portions of a document appears to be substituting the display of the missing portions. The substitute display information (structure nodes) aids in the computer understanding what is missing in the document since the structure node indicates the relationship of the subtree to other subtrees. Since it appears that there is not only a substitute display, but also substitute display information, there must be a "mechanism for creating such a substitute display."

6.   As to the applicant's arguments with respect to Claim 15 for the prior art(s) allegedly not teaching or suggesting "immediately replaces the substitute structured portion relating to the descendant substitute display information under reconstruction with the descendant node when said extraction means extracts the descendant node which substitute display for the descendant node according to the descendant substitute display information is being performed," the examiner respectfully disagrees. Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]] was used to reject this claim. Piotrowski, paragraph [0025] generally teaches the flowchart of Fig. 4 dealing with constructing/reconstructing the streamed XML document and "display[s] the content or store[s] the content in a specified location (is should be noted that displaying content requires a specified location to display the content). Logically, therefore, once more information is acquired, it is used. Piotrowski, paragraph [0009] generally teaches reconstructing portions of the received XML document. Piotrowski, paragraph [0015] additionally teaches that the XML receiver may "decode only a portion of the streamed XML document...if the complete XML document has not yet arrived. Therefore, when one portion arrives, it is decoded/displayed, then another portion comes in, it is

decoded/displayed, then the last portion comes in and that is decoded/displayed. This appears to be replacing the missing XML portions when they arrive (this is essentially what is claimed).

7.   As to the applicant's arguments with respect to exemplary Claims 5, 16, 27, and 38 for the prior art(s) allegedly not teaching or suggesting "document nodes are "placed in the multiplexed stream according to the inter-document priorities" before they are transmitted," the examiner respectfully disagrees. This argument is similar to the argument above regarding "that document nodes are "arranged in a sequence on the basis of the node priorities" before they are transmitted," but instead this argued limitation includes the limitation of "multiplexed." Multiplexed was shown below as being taught in Gutle, col. 2, lines 10-30 where Gutle teaches "several sub-channels...which are fed into a multiplexer...are time-multiplexed." This appears to be multiplexing. Having this reference combined with Piotrowski (as shown below) adds the functionality of multiplexing to Piotrowski. The references appear to teach the claimed limitations as claimed.

8.   The other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, dated November 17th, 2007, are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective rejections from at least a prior Office action (part(s) of recited again below).

Response to Amendment

Specification

9.   The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Drawings

10.   In light of the applicant's respective arguments or respective amendments, the

previous drawing objections to the drawings have been withdrawn.

11.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: Fig. 26, detail 604, Fig. 30, detail 1004, Fig. 31, detail 1102, and Fig. 33,

detail 1303. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or

amendment to the specification to add the reference character(s) in the description in

compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid

abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

12.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "701" has been used to designate both a "File storage means" (Fig. 27) and a "Display means" (Fig. 28). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

13.   Figs. 6, 8, 9, 32, and 34-38 include dark portions that hinder the readability of the drawings and, thus, hinder understanding of the claimed invention.

14.   Since the lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors, Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings. For example, the drawings should be carefully checked to ensure that all reference numerals are described in the specification, that no one reference numeral describes two separate drawing elements, or that the specification contains no reference to numerals not in the drawings.

Claim Objections

15.   In light of the applicant's respective arguments or respective amendments, the

previous claim objections to the claims have been withdrawn. However, new objections

were discovered or are warranted by the amended claims.

16.   Claims 5-9, 35-37 and 42-44 are objected to because of the following

informalities:

a.   Claim 5 recites "said extraction means extracting the nodes subtrees fro

the processing-assigned node stream..." on lines 47-49. Based on the

amendments to Claims 6 and 27, it appears that the applicants intended to

amend Claim 5 as such: "said extraction means extracting the nodes or subtrees

fro the processing-assigned node stream." This objection propagates downward

through dependent Claims 6-9.

b.   Claim 35 recites "A tree-structured document receiving method of...said

tree-structured document receiving apparatus having" in lines 1-2 and 12-13.

This appears to be a copy/paste error from originally drafting the claims similar to

a prior apparatus claim. Claim 42 recites substantially the same objection on

lines 1-2 and 21-22. This objection propagates downward through dependent

Claims 36, 37, 43, and 44.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

17.   In light of the applicant's respective arguments or respective amendments, some

previous 35 USC § 112 rejections to the claims have been withdrawn.

18.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

19. Claims 1-4 and 33 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

20. Claim 1 recites "and/or" in line 17. This phrase renders the claim indefinite since

it is unclear what the claim is claiming (e.g. "and" and "or," just "and," or just "or"). This

rejection propagates downward through dependent Claims 2-4.

21. Claim 33 recites the limitation "the node stream generation step" in lines 4-5.

There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

23. Claims 13-15, and 35-37 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent Application Publication No. 2003/0236903 (Piotrowski).

Claim 13 can be mapped to Piotrowski as follows: "A tree-structured document

receiving apparatus which receives a signal formed by converting on the basis of a

predetermined network protocol a node stream [Piotrowski, paragraph [0022] with

Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] formed in such a manner that a

node priority is set with respect to each of nodes [Piotrowski, paragraph [0019] with

Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured

document on the basis of the importance of an information portion to be presented from

the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski,

paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two

conditions: a first condition that the node priority of the node is equal to or lower than

that of a node which is an ancestor of that node, [Piotrowski, paragraph [0017] with

Piotrowski, paragraphs [0008]-[0009]] and a second condition that if a plurality of nodes

of the same priority exist, the nodes necessarily constitute one subtree; [Piotrowski,

paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and nodes or subtrees are

arranged in a sequence on the basis of the node priorities, [Piotrowski, paragraphs

[0007]-[0008]] said tree-structured document receiving apparatus having:

- receiving means of restoring the node stream from the signal received by the

  predetermined network protocol; [Piotrowski, paragraph [0015] with Piotrowski,

  paragraphs [0023]-[0025]]

- extraction means of extracting at least one of the nodes or the subtrees from the

  node stream restored by said receiving means according to the sequence of

  arrangement in the node stream; [Piotrowski, paragraph [0015] with Piotrowski,

  paragraphs [0023]-[0025]]

- reconstruction means of adding at least one of the nodes or the subtree in the

  extraction order to the tree-structured document under reconstruction;

  [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- display means of displaying the tree-structured document in the current

    reconstructed state" [Piotrowski, paragraph [0025] with Piotrowski, paragraph

    [0009]].

Claim 14 can be mapped to Piotrowski as follows: "The tree-structured document

receiving apparatus according to claim 13, wherein, in the node stream restored by said

receiving means, descendant substitute display information for substitute display on

said display means for descendant nodes with respect to at least one of a node or a

subtree existing as a parent of the descendant node is added immediately after at least

one of the node or the subtree existing as a parent of the descendant node; [Piotrowski,

paragraph [0017] with Piotrowski, paragraph [0018]]

- said extraction means extracts at least one of the nodes or the subtrees and the

    descendant substitute display information from the node stream restored by said

    receiving means according to the sequence of arrangement in the node stream;

    [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski,

    paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- said reconstruction means adds a substitute structure portion relating to the

    descendant substitute display information to the tree structure under

    reconstruction in place of the descendant node relating to the descendant

    substitute display information when said extraction means extracts the

    descendant substitute display information" [Piotrowski, paragraph [0017] with

    Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]].

Claim 15 can be mapped to Piotrowski as follows: "The tree-structured document

receiving apparatus according to claim 14, wherein said reconstruction means

immediately replaces the substitute tree-structured portion relating to the descendant

substitute display information in the tree structure under reconstruction with the

descendant node when said extraction means extracts the descendant node while

substitute display for the descendant node according to the descendant substitute

display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski,

paragraph [0025]].

Claims 35-37 encompass substantially the same scope of the invention as that

of Claims 13-15, respectfully, in addition to a method and some steps for performing the

system means of Claims 13-15, respectfully. Therefore, Claims 35-37 are rejected for

the same reasons as stated above with respect to Claims 13-15, respectfully.

Claim Rejections - 35 USC § 103

24.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

25.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

26.   Claims 1-4, 10-12, 23-26, and 32-34 are rejected under 35 U.S.C. 103(a) as

being unpatentable over U.S. Patent Application Publication No. 2003/0236903

(Piotrowski) in view of U.S. Patent No. 5,899,995 (Miller et al.).

    For **Claim 1**, Piotrowski teaches: "A tree-structured document transmitting and

receiving system having a tree-structured document transmitting apparatus and a tree-

structured document receiving apparatus, [Piotrowski, Fig. 1 with Piotrowski, paragraph

[0022]] said tree-structured document transmitting apparatus having:

- ...of storing a plurality of tree-structured documents; [Piotrowski, paragraphs
  [0022]-[0023]]

- node priority presentation means of presenting a node priority [Piotrowski,
  paragraph [0019]] which is set with respect to each of nodes [Piotrowski,
  paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured
  document on the basis of the importance of an information portion to be
  presented from the node to a receiving-side user [Piotrowski, paragraph [0015]
  with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]]
  while satisfying two conditions: a first condition that the node priority of the node
  is equal to or lower than that of a node which is an ancestor of that node,
  [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and a
  second condition that if a plurality of nodes of the same priority exist, the nodes

necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]]

- node stream generation means [Piotrowski, paragraph [0022]] of reading out a tree-structured document to be transmitted from the tree-structured document storage means and generating a node stream in which nodes and/or subtrees are arranged in a sequence on the basis of node priorities presented by said node priority presentation means; [Piotrowski, paragraphs [0007]-[0008]] and

- transmitting means of converting said node stream into a signal based on a predetermined network protocol and transmitting the signal, [Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] said tree-structured document receiving apparatus having:

- receiving means of restoring the node stream from the signal received by said predetermined network protocol from said transmitting means; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]

- extraction means of extracting at least one of the nodes or the subtrees from the node stream restored by said receiving means according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]

- reconstruction means of adding at least one of the nodes or the subtrees in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- display means of displaying the tree-structured document in the current

  reconstructed state" [Piotrowski, paragraph [0025] with Piotrowski, paragraph

  [0009]].

Piotrowski discloses the above limitations but does not expressly teach:

- "...tree-structured document storage means."

  With respect to Claim 1, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

It would have been obvious to one of ordinary skill in the art at the time of

invention to combine Miller with Piotrowski because both inventions are directed

towards storing files.

Miller's invention would have been expected to successfully work well with

Piotrowski's invention because both inventions use storage areas. Piotrowski discloses

a method and apparatus for structured streaming of an XML document comprising

storage devices, however Piotrowski does not expressly disclose that the storage

devices are tree-structured. Miller discloses a method and apparatus for automatically

organizing information comprising storage areas and a storage manager that files

documents into appropriate folders and/or storage areas.

It would have been obvious to one of ordinary skill in the art at the time of

invention to take the folders/files from Miller and install it into the invention of Piotrowski,

thereby offering the obvious advantage of having an organized way of storing items on

the storage device.

Claim 2 can be mapped to Piotrowski (as modified by Miller) as follows: "The

tree-structured document transmitting and receiving system according to claim 1,

wherein said tree-structured document transmitting apparatus further has:

- descendant substitute display information storage means of storing descendant

  substitute display information for substitute display on said display means of said

  tree-structured document receiving apparatus for descendant nodes with respect

  to at least one of a node or a subtree existing as a parent of the descendant

  node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- descendant substitute display information addition means of making the node

  stream generation means generate as said node stream a stream in which the

  descendant substitute display information read out from said descendant

  substitute display information storage means is added immediately after at least

  one of the node or the subtree existing as a parent of the descendant node,

  [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- wherein, in said tree-structured document receiving apparatus, said extraction

  means extracts at least one of the nodes or the subtrees and the descendant

  substitute display information from the node stream restored by said receiving

  means according to the sequence of arrangement in the node stream;

  [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski,

  paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- said reconstruction means adds a substitute structure portion relating to the

  descendant substitute display information to the tree structure under

  reconstruction in place of the descendant node relating to the descendant

substitute display information when said extraction means extracts the

descendant substitute display information" [Piotrowski, paragraph [0017] with

Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]].

Claim 3 can be mapped to Piotrowski (as modified by Miller) as follows: "The

tree-structured document transmitting and receiving system according to claim 2,

wherein, in said tree-structured document receiving apparatus, said reconstruction

means immediately replaces the substitute tree-structured portion relating to the

descendant substitute display information in the tree structure under reconstruction with

the descendant node when said extraction means extracts the descendant node while

substitute display for the descendant node according to the descendant substitute

display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski,

paragraph [0025]].

Claim 4 can be mapped to Piotrowski (as modified by Miller) as follows: "The

tree-structured document transmitting and receiving system according to claim 1,

wherein said tree-structured document transmitting apparatus further has node priority

setting means of determining the importance of an information portion to be presented

from each node to the receiving-side user on the basis of a content of the node, an

attribute of the node, a content of the document, an attribute of the document, the tree

structure, a user instruction from a transmitting-side user, or a user instruction from the

receiving-side user, and setting a node priority on the basis of the determination,

[Piotrowski paragraph [0019]] and

- wherein, in said tree-structured document transmitting apparatus, said node

  priority presentation means presents the node priority set by said node priority

  setting means" [Piotrowski paragraph [0019]].

For **Claim 10**, Piotrowski teaches: "A tree-structured document transmitting

apparatus [Piotrowski, Fig. 1 with Piotrowski, paragraph [0022]] having:

- ... of storing a plurality of tree-structured documents; [Piotrowski, paragraphs

  [0022]-[0023]]

- node priority presentation means of presenting a node priority [Piotrowski,

  paragraph [0019]] which is set with respect to each of nodes [Piotrowski,

  paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured

  document on the basis of the importance of an information portion to be

  presented from the node to a receiving-side user [Piotrowski, paragraph [0015]

  with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]]

  while satisfying two conditions: a first condition that the node priority of the node

  is equal to or lower than that of a node which is an ancestor of that node,

  [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and a

  second condition that if a plurality of nodes of the same priority exist, the nodes

  necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski,

  paragraphs [0008]-[0009]]

- node stream generation means [Piotrowski, paragraph [0022]] of reading out a

  tree-structured document to be transmitted from the tree-structured document

  storage means and generating a node stream in which at least one of nodes or

  the subtrees are arranged in a sequence on the basis of node priorities

presented by said node priority presentation means; [Piotrowski, paragraphs

[0007]-[0008]] and

- transmitting means of converting said node stream into a signal based on a

  predetermined network protocol and transmitting the signal" [Piotrowski,

  paragraph [0015] with Piotrowski, Fig. 1].

  Piotrowski discloses the above limitations but does not expressly teach:

- "...tree-structured document storage means."

  With respect to Claim 10, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

  It would have been obvious to one of ordinary skill in the art at the time of

invention to combine Miller with Piotrowski because both inventions are directed

towards storing files.

Miller's invention would have been expected to successfully work well with

Piotrowski's invention because both inventions use storage areas. Piotrowski discloses

a method and apparatus for structured streaming of an XML document comprising

storage devices, however Piotrowski does not expressly disclose that the storage

devices are tree-structured. Miller discloses a method and apparatus for automatically

organizing information comprising storage areas and a storage manager that files

documents into appropriate folders and/or storage areas.

It would have been obvious to one of ordinary skill in the art at the time of

invention to take the folders/files from Miller and install it into the invention of Piotrowski,

thereby offering the obvious advantage of having an organized way of storing items on

the storage device.

Claim 11 can be mapped to Piotrowski (as modified by Miller) as follows: "The tree-structured document transmitting apparatus according to claim 10, further having:

- descendant substitute display information storage means of storing descendant substitute display information for substitute display on said display means of said tree-structured document receiving apparatus for descendant nodes with respect to at least one of a node or a subtree existing as a parent of the descendant node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- descendant substitute display information addition means of making the node stream generation means generate as said node stream a stream in which the descendant substitute display information read out from said descendant substitute display information storage means is added immediately after at least one of the node or the subtree existing as a parent of the descendant node" [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]].

Claim 12 can be mapped to Piotrowski (as modified by Miller) as follows: "The tree-structured document transmitting apparatus according to claim 10, further having:

- node priority setting means of determining the importance of an information portion to be presented from each node to a receiving-side user on the basis of a content of the node, an attribute of the node, a content of the document, an attribute of the document, the tree structure, a user instruction from a transmitting-side user, or a user instruction from the receiving-side user, and setting a node priority on the basis of the determination, [Piotrowski paragraph [0019]]

- wherein said node priority presentation means presents the node priority set by

  said node priority setting means" [Piotrowski paragraph [0019]].

  Claims 23-26 and 32-34 encompass substantially the same scope of the

invention as that of Claims 1-4 and 10-12, respectfully, in addition to a method and

some steps for performing the system means of Claims 1-4 and 10-12, respectfully.

Therefore, Claims 23-26 and 32-34 are rejected for the same reasons as stated above

with respect to Claims 1-4 and 10-12, respectfully.

27.   Claims 5-9, 16-19, 27-31, and 38-41 are rejected under 35 U.S.C. 103(a) as

being unpatentable over U.S. Patent Application Publication No. 2003/0236903

(Piotrowski) in view of U.S. Patent No. 5,899,995 (Miller et al.) in view of U.S. Patent

No. 5,790,937 (Gutle), further in view of U.S. Patent No. 5,907,841 (Sumita).

For **Claim 5**, Piotrowski teaches: "A tree-structured document transmitting and

receiving system having a tree-structured document transmitting apparatus and a tree-

structured document receiving apparatus, [Piotrowski, Fig. 1 with Piotrowski, paragraph

[0022]] said tree-structured document transmitting apparatus having:

- ... of storing a plurality of tree-structured documents; [Piotrowski, paragraphs

  [0022]-[0023]]

- ... document-by-document encoding means [Piotrowski, paragraphs [0015]-

  [0017]]..., and each having node priority presentation means [Piotrowski,

  paragraph [0019]] and node stream generation means, [Piotrowski, paragraph

  [0022]] said node priority presentation means presenting a node priority which is

  set with respect to each of nodes [Piotrowski, paragraph [0017] with Piotrowski,

paragraph [0022]] of said assigned tree-structured document on the basis of the

importance of an information portion to be presented from the node to a

receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs

[0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a

first condition that the node priority of the node is equal to or lower than that of a

node which is an ancestor of that node, [Piotrowski, paragraph [0017] with

Piotrowski, paragraphs [0008]-[0009]] and a second condition that if a plurality of

nodes of the same priority exist, the nodes necessarily constitute one subtree,

[Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] said

node stream generation means reading out a tree-structured document to be

transmitted from the tree-structured document storage means and generating a

node stream in which at least one of the nodes or the subtrees are arranged in a

sequence on the basis of node priorities presented by said node priority

presentation means; [Piotrowski, paragraphs [0007]-[0008]]

- … stream generation means [Piotrowski, paragraph [0022]] of generating one

  multiplexed stream by multiplexing the node streams from said document-by-

  document encoding means, sequences in which at least one of the nodes or the

  subtrees of the tree-structured documents are arranged being placed in the

  multiplexed stream according to the inter-document priorities presented by said

  inter-document priority presentation means with respect to the tree-structured

  documents containing at least one of the nodes or the subtrees; [Piotrowski,

  paragraphs [0007]-[0008]] and

- transmitting means of transmitting said multiplexed stream by converting said

  multiplexed stream on the basis of a predetermined network protocol,

  [Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] said tree-structured

  document receiving apparatus having:

- receiving means of restoring the multiplexed stream from the signal received by

  said predetermined network protocol from said transmitting means; [Piotrowski,

  paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]

- … document-by-document decoding means…[Piotrowski, paragraph [0015] with

  Piotrowski, paragraphs [0023]-[0025]], and each including extraction means and

  reconstruction means, said extraction means extracting the nodes subtrees from

  said processing-assigned node stream according to the sequence of

  arrangement in the node stream, said reconstruction means adding at least one

  of the node or the subtree in the extraction order to the tree-structured document

  under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs

  [0023]-[0025]] and

- display means of displaying the tree-structured document under reconstruction in

  each document-by-document decoding means, the tree structure being displayed

  in the current reconstructed state at a corresponding position" [Piotrowski,

  paragraph [0025] with Piotrowski, paragraph [0009]].

  Piotrowski discloses the above limitations but does not expressly teach:

- "…tree-structured document storage means

- ...a plurality of...each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted

- ...inter-document priority presentation means of presenting inter-document priorities set as transmission priorities with respect to the plurality of tree-structured documents to be transmitted;

- ...multiplexed

- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;

- a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means"

With respect to Claim 5, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

With respect to Claim 5, an analogous art, Gutle, teaches:

- "...multiplexed [Gutle, col. 2, lines 10-30]

- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;" [Gutle, col. 2, lines 10-30].

With respect to Claim 5, an analogous art, Sumita, teaches:

- "...inter-document priority presentation means of presenting inter-document priorities set as transmission priorities with respect to the plurality of tree-structured documents to be transmitted" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].

With respect to Claim 5 case law teaches:

- "...a plurality of...each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted [*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)]

- ...a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means" [*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Miller, Sumita and Gutle with Piotrowski because the inventions are directed towards storing and transmitting files.

Miller, Sumita and Gutle's inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use storage areas and transmit files. Piotrowski discloses a method and apparatus for structured streaming of an XML document comprising storage devices, however Piotrowski does not expressly disclose that the storage devices are tree-structured, presenting inter-document priorities, and transferring using multiplexing/demultiplexing. Miller discloses a method and apparatus for automatically organizing information comprising storage areas and a storage manager that files documents into appropriate folders and/or storage areas. Sumita discloses a document detection system with improved document detection efficiency comprising displaying documents according to priority. Gutle discloses a method and apparatus for the distribution of multi-media documents comprising multiplexing and demutliplexing a stream of data.

It would have been obvious to one of ordinary skill in the art at the time of

invention to take the folders/files from Miller, the multiplexing/demultiplexing from Gutle,

and the presenting inter-document priorities from Sumita and install it into the invention

of Piotrowski, thereby offering the obvious advantage of having an organized way of

storing items on the storage device, sending multiple things through a stream of data

(increasing the speed), and displaying relevant documents first according to their

priority.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Piotrowski such that Piotrowski has a plurality of

document-by-document encoding and decoding means each assigned processing of

one tree-structured document in a plurality of tree-structured documents to be

transmitted since it has been held that a duplication of parts with function (*In re Harza*,

274 F.2d 669, 124 USPQ 378 (CCPA 1960)) is obvious. In this case it is obvious

because it would increase the speed of the Piotrowski so Piotrowski's invention does

more than one document at a time.

Claim 6 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle)

as follows: "The tree-structured document transmitting and receiving system according

to claim 5, wherein, in said tree-structured document transmitting apparatus, said

document-by-document encoding means further includes:

- descendant substitute display information storage means of storing descendant

  substitute display information for substitute display on said display means of said

  tree-structured document receiving apparatus for descendant nodes with respect

to at least one of a node or a subtree existing as a parent of the descendant

node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- descendant substitute display information addition means of making the node

  stream generation means generate as said node stream a stream in which the

  descendant substitute display information read out from said descendant

  substitute display information storage means is added immediately after at least

  one of the node or a subtree existing as a parent of the descendant node,

  [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- wherein, in each document-by-document decoding means of said tree-structured

  document receiving apparatus, said extraction means extracts the nodes or

  subtrees and the descendant substitute display information from the node stream

  restored by said receiving means according to the sequence of arrangement in

  the node stream; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]

  with Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- said reconstruction means adds a substitute structure portion relating to the

  descendant substitute display information to the tree structure under

  reconstruction in place of the descendant node relating to the descendant

  substitute display information when said extraction means extracts the

  descendant substitute display information" [Piotrowski, paragraph [0017] with

  Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]].

  Claim 7 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle)

as follows: "The tree-structured document transmitting and receiving system according

to claim 6, wherein, in each document-by-document decoding means of said tree-

structured document receiving apparatus, said reconstruction means immediately

replaces the substitute tree-structured portion relating to the descendant substitute

display information in the tree structure under reconstruction with the descendant node

when said extraction means extracts the descendant node while substitute display for

the descendant node according to the descendant substitute display information is

being performed" [Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]].

Claim 8 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle)

as follows: "The tree-structured document transmitting and receiving system according

to claim 5,

- wherein the multiplexed stream generation means of said tree-structured

  document transmitting apparatus further has node priority setting means of

  determining the importance of an information portion to be presented from each

  node to the receiving-side user on the basis of a content of the node, an attribute

  of the node, a content of the document, an attribute of the document, the tree

  structure, or a user instruction, and setting a node priority on the basis of the

  determination, [Piotrowski paragraph [0019]] and

- wherein, in the multiplexed stream generation means of said tree-structured

  document transmitting apparatus, said node priority presentation means presents

  the node priority set by said node priority setting means" [Piotrowski paragraph

  [0019]].

Claim 9 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle)

as follows: "The tree-structured document transmitting and receiving system according

to claim 5,

- wherein said tree-structured document transmitting apparatus further has inter-document priority setting means of setting inter-document priorities on the basis of the contents of the documents, the attributes of the documents, the degrees of relation with a search word relating to a search request from the receiving-side user, a user instruction from a transmitting-side user, or a user instruction from the receiving-side user, [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]] and

- wherein, in said tree-structured document transmitting apparatus, said inter-document priority presentation means presents the inter-document priorities set by said inter-document priority setting means" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].

For **Claim 16**, Piotrowski teaches: "A tree-structured document transmitting apparatus [Piotrowski, Fig. 1 with Piotrowski, paragraph [0022]] having:

- …of storing a plurality of tree-structured documents; [Piotrowski, paragraphs [0022]-[0023]]

- …document-by-document encoding means [Piotrowski, paragraphs [0015]-[0017]]…, and each having node priority presentation means [Piotrowski, paragraph [0019]] and node stream generation means, [Piotrowski, paragraph [0022]] said node priority presentation means presenting a node priority which is set with respect to each of nodes [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of said assigned tree-structured document on the basis of the importance of an information portion to be presented from the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs

[0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a

first condition that the node priority of the node is equal to or lower than that of a

node which is an ancestor of that node, [Piotrowski, paragraph [0017] with

Piotrowski, paragraphs [0008]-[0009]]] and a second condition that if a plurality of

nodes of the same priority exist, the nodes necessarily constitute one subtree,

[Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] said

node stream generation means reading out a tree-structured document to be

transmitted from the tree-structured document storage means and generating a

node stream in which at least one of the nodes or the subtrees are arranged in a

sequence on the basis of node priorities presented by said node priority

presentation means; [Piotrowski, paragraphs [0007]-[0008]]

- ...stream generation means [Piotrowski, paragraph [0022]] of generating one

  multiplexed stream by multiplexing the node streams from said document-by-

  document encoding means, sequences in which at least one of the nodes or the

  subtrees of the tree-structured documents are arranged being placed in the

  multiplexed stream according to the inter-document priorities presented by said

  inter-document priority presentation means with respect to the tree-structured

  documents containing at least one of the nodes or the subtrees; [Piotrowski,

  paragraphs [0007]-[0008]] and

- transmitting means of transmitting said multiplexed stream by converting said

  multiplexed stream on the basis of a predetermined network protocol"

  [Piotrowski, paragraph [0015] with Piotrowski, Fig. 1].

  Piotrowski discloses the above limitations but does not expressly teach:

- "...tree-structured document storage means

- ...a plurality of...each assigned processing of one tree-structured document in a
  plurality of tree-structured documents to be transmitted

- ...multiplexed

- ...inter-document priority presentation means of presenting inter-document
  priorities set as transmission priorities with respect to the plurality of tree-
  structured documents to be transmitted;

  With respect to Claim 16, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

  With respect to Claim 16, an analogous art, Gutle, teaches:

- "...multiplexed [Gutle, col. 2, lines 10-30].

  With respect to Claim 16, an analogous art, Sumita, teaches:

- "...inter-document priority presentation means of presenting inter-document
  priorities set as transmission priorities with respect to the plurality of tree-
  structured documents to be transmitted" [Sumita, cols. 21-22, lines 65-6 with
  Piotrowski, paragraph [0019]].

  With respect to Claim 16 case law teaches:

- "...a plurality of...each assigned processing of one tree-structured document in a
  plurality of tree-structured documents to be transmitted [*In re Harza*, 274 F.2d
  669, 124 USPQ 378 (CCPA 1960)].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Miller, Sumita and Gutle with Piotrowski because the inventions are directed towards storing and transmitting files.

Miller, Sumita and Gutle's inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use storage areas and transmit files. Piotrowski discloses a method and apparatus for structured streaming of an XML document comprising storage devices, however Piotrowski does not expressly disclose that the storage devices are tree-structured, presenting inter-document priorities, and transferring using multiplexing/demultiplexing. Miller discloses a method and apparatus for automatically organizing information comprising storage areas and a storage manager that files documents into appropriate folders and/or storage areas. Sumita discloses a document detection system with improved document detection efficiency comprising displaying documents according to priority. Gutle discloses a method and apparatus for the distribution of multi-media documents comprising multiplexing and demutliplexing a stream of data.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the folders/files from Miller, the multiplexing/demultiplexing from Gutle, and the presenting inter-document priorities from Sumita and install it into the invention of Piotrowski, thereby offering the obvious advantage of having an organized way of storing items on the storage device, sending multiple things through a stream of data (increasing the speed), and displaying relevant documents first according to their priority.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Piotrowski such that Piotrowski has a plurality of

document-by-document encoding and decoding means each assigned processing of

one tree-structured document in a plurality of tree-structured documents to be

transmitted since it has been held that a duplication of parts with function (*In re Harza*,

274 F.2d 669, 124 USPQ 378 (CCPA 1960)) is obvious. In this case it is obvious

because it would increase the speed of the Piotrowski so Piotrowski's invention does

more than one document at a time.

Claim 17 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle)

as follows: "The tree-structured document transmitting apparatus according to claim 16,

wherein said document-by-document encoding means further includes:

- descendant substitute display information storage means of storing descendant

  substitute display information for substitute display on said display means of said

  tree-structured document receiving apparatus for descendant nodes with respect

  to at least one of a node or a subtree existing as a parent of the descendant

  node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- descendant substitute display information addition means of making the node

  stream generation means generate as said node stream a stream in which the

  descendant substitute display information read out from said descendant

  substitute display information storage means is added immediately after at least

  one of the node or a subtree existing as a parent of the descendant node"

  [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]].

Claim 18 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle) as follows: "The tree-structured document transmitting apparatus according to claim 16, wherein the multiplexed stream generation means of said tree-structured document transmitting apparatus further has node priority setting means of determining the importance of an information portion to be presented from each node to the receiving-side user on the basis of a content of the node, an attribute of the node, a content of the document, an attribute of the document, the tree structure, or a user instruction, and setting a node priority on the basis of the determination, [Piotrowski paragraph [0019]] and

- wherein, in the multiplexed stream generation means of said tree-structured document transmitting apparatus, said node priority presentation means presents the node priority set by said node priority setting means" [Piotrowski paragraph [0019]].

Claim 19 can be mapped to Piotrowski (as modified by Miller, Sumita and Gutle) as follows: "The tree-structured document transmitting apparatus according to claim 16, further having inter-document priority setting means of setting inter-document priorities on the basis of the contents of the documents, the attributes of the documents, the degrees of relation with a search word relating to a search request from the receiving-side user, a user instruction from a transmitting-side user, or a user instruction from the receiving-side user, [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]]]

- wherein said inter-document priority presentation means presents the inter-document priorities set by said inter-document priority setting means" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]]].

Claims 27-31 and 38-41 encompass substantially the same scope of the

invention as that of Claims 5-9 and 16-19, respectfully, in addition to a method and

some steps for performing the system means of Claims 5-9 and 16-19, respectfully.

Therefore, Claims 27-31 and 38-41 are rejected for the same reasons as stated above

with respect to Claims 5-9 and 16-19, respectfully.

28.   Claims 20-22 and 42-44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in

view of U.S. Patent No. 5,790,937 (Gutle), further in view of U.S. Patent No. 5,907,841

(Sumita).

For **Claim 20**, Piotrowski teaches: "A tree-structured document receiving

apparatus which receives a signal formed by converting on the basis of a predetermined

network protocol [Piotrowski, paragraph [0022] with Piotrowski, paragraph [0015] with

Piotrowski, Fig. 1] a ... stream formed in such a manner that a node priority is set with

respect to each of nodes [Piotrowski, paragraph [0019] with Piotrowski, paragraph

[0017] with Piotrowski, paragraph [0022]] of a tree-structured document on the basis of

the importance of an information portion to be presented from the node to a receiving-

side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with

Piotrowski, paragraph [0025]] while satisfying two conditions: a first condition that the

node priority of the node is equal to or lower than that of a node which is an ancestor of

that node, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and

a second condition that if a plurality of nodes of the same priority exist, the nodes

necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski,

paragraphs [0008]-[0009]] node streams are formed [Piotrowski, paragraph [0022]] in each of which, with respect to one of a plurality of tree-structured documents to be presently transmitted, at least one of nodes or subtrees are arranged in a sequence on the basis of the node priorities related to the tree-structured document; [Piotrowski, paragraphs [0007]-[0008]] and the multiplexed stream is formed by multiplexing the node streams relating to the tree-structured documents to be presently transmitted, sequences in which at least one of the nodes or subtrees of the tree-structured documents are arranged being placed in the multiplexed stream according to ... set with respect to the tree-structured documents containing the nodes or subtrees, [Piotrowski, paragraphs [0007]-[0008]] said tree-structured document receiving apparatus having:

- receiving means of restoring the multiplexed stream from the signal received by the predetermined network protocol; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]

- demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;

- ...document-by-document decoding means [Piotrowski, paragraphs [0015] with Piotrowski, paragraphs [0023]-[0025]]..., and each including extraction means and reconstruction means, said extraction means extracting the at least one of the nodes or subtrees from said processing-assigned node stream according to the sequence of arrangement in the node stream, said reconstruction means adding the nodes or subtree in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- display means of displaying the tree-structured document under reconstruction in each document-by-document decoding means, the tree structure being displayed in the current reconstructed state at a corresponding position" [Piotrowski, paragraph [0025] with Piotrowski, paragraph [0009]].

Piotrowski discloses the above limitations but does not expressly teach:

- "...multiplexed

- ...inter-document priorities

- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;

- a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means"

With respect to Claim 20, an analogous art, Gutle, teaches:

- "...multiplexed [Gutle, col. 2, lines 10-30]

- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;" [Gutle, col. 2, lines 10-30].

With respect to Claim 20, an analogous art, Sumita, teaches:

- "...inter-document priorities" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].

With respect to Claim 20 case law teaches:

- "...a plurality of ...each assigned processing of one node stream in the plurality

  of node streams demultiplexed by said demultiplexing means" [*In re Harza*, 274

  F.2d 669, 124 USPQ 378 (CCPA 1960)].

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Sumita and Gutle with Piotrowski because the inventions are

directed towards storing and transmitting files.

Sumita and Gutle's inventions would have been expected to successfully work

well with Piotrowski's invention because the inventions use storage areas and transmit

files. Piotrowski discloses a method and apparatus for structured streaming of an XML

document comprising storage devices, however Piotrowski does not expressly disclose

that the storage devices are tree-structured, presenting inter-document priorities, and

transferring using multiplexing/demultiplexing. Sumita discloses a document detection

system with improved document detection efficiency comprising displaying documents

according to priority. Gutle discloses a method and apparatus for the distribution of

multi-media documents comprising multiplexing and demutliplexing a stream of data.

It would have been obvious to one of ordinary skill in the art at the time of

invention to take the multiplexing/demultiplexing from Gutle, and the presenting inter-

document priorities from Sumita and install it into the invention of Piotrowski, thereby

offering the obvious advantage of sending multiple things through a stream of data

(increasing the speed), and displaying relevant documents first according to their

priority.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Piotrowski such that Piotrowski has a plurality of

document-by-document encoding and decoding means each assigned processing of

one tree-structured document in a plurality of tree-structured documents to be

transmitted since it has been held that a duplication of parts with function (*In re Harza*,

274 F.2d 669, 124 USPQ 378 (CCPA 1960)) is obvious. In this case it is obvious

because it would increase the speed of the Piotrowski so Piotrowski's invention does

more than one document at a time.

Claim 21 can be mapped to Piotrowski (as modified by Sumita and Gutle) as

follows: "The tree-structured document receiving apparatus according to claim 20,

wherein, in the node stream, descendant substitute display information for substitute

display on said display means for descendant nodes with respect to at least one of a

node or a subtree existing as a parent of the descendant node is added immediately

after at least one of the node or the subtree existing as a parent of the descendant

node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]]

said extraction means in said document-by-document decoding means extracts

at least one of the nodes or the subtrees and the descendant substitute display

information from the node stream according to the sequence of arrangement in the

node stream; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with

Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

said reconstruction means in said document-by-document decoding means adds

a substitute structure portion relating to the descendant substitute display information to

the tree structure under reconstruction in place of the descendant node relating to the

descendant substitute display information when said extraction means extracts the

descendant substitute display information" [Piotrowski, paragraph [0017] with

Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]].

Claim 22 can be mapped to Piotrowski (as modified by Sumita and Gutle) as

follows: "The tree-structured document receiving apparatus according to claim 21,

wherein said reconstruction means in said document-by-document decoding means

immediately replaces the substitute tree-structured portion relating to the descendant

substitute display information in the tree structure under reconstruction with the

descendant node when said extraction means extracts the descendant node while

substitute display for the descendant node according to the descendant substitute

display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski,

paragraph [0025]].

Claims 42-44 encompass substantially the same scope of the invention as that

of Claims 20-22, respectfully, in addition to a method and some steps for performing the

system means of Claims 20-22, respectfully. Therefore, Claims 42-44 are rejected for

the same reasons as stated above with respect to Claims 20-22, respectfully.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Conclusion

29.   Any prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on any PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

30.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu M. Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace ♭.⸂.

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER